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ScienceDirect

Procedia - Social and Behavioral Sciences 214 (2015) 739 – 747

Procedia
Social and Behavioral Sciences

Worldwide trends in the development of education and academic research, 15 - 18 June 2015

Formative Personalisation of Students' Self-Determination and Employability

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Abstract

In relation to existing problems of employability, the article discusses organisational and pedagogical conditions that support professional development of engineering university students within the individualised and personalised approach to the educational process. The need to teach students the basics of engineering jobs and career development technology is described. The formative pedagogical support of students is shown by the example of Tomsk Polytechnic University (TPU) realising the model of three interconnected successive disciplines facilitating students' professional self-determination and employability. The paper presents the results of the research into TPU students' personal characteristics in terms of various directions of their future professional activity and their perception of the importance of such learning process components as vocational and academic training, on-placement and research practice.

Peer-review under responsibility of: Bulgarian Comparative Education Society (BCES), Sofia, Bulgaria & International Research Center (IRC) 'Scientific Cooperation', Rostov-on-Don, Russia.

Keywords: personalisation; personification; individualisation; professional self-determination; employability

1. Introduction

Employability is currently the subject of a large number of investigations in the area of education and vocational guidance. Researchers focus on the harmonisation of relations between individual queries and the labour market. In this respect, various external and internal factors connected to personal characteristics (for instance, satisfaction, etc.) are considered meaningful. As given in Guilbert, Bernaud, Gouvernet, Rossier (2015), sociological methods have shown certain correlation between employability and knowing why, whom, and how (Eby, Butts, Lockwood,

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Peer-review under responsibility of: Bulgarian Comparative Education Society (BCES), Sofia, Bulgaria & International Research Center (IRC) 'Scientific Cooperation', Rostov-on-Don, Russia.
doi:10.1016/j.sbspro.2015.11.706

2003), employability activities (Van Dam, 2004), role breadth self-efficacy and employability culture (Nauta, Van Vianen, Van der Heijden, Van Dam, Wellemsen, 2009), proactive personality, boudaryless mindset, career self-efficacy, identity awareness, networking, social support, self-esteem, job search and re-employment (McArdle, Waters, Briscoe, Hall, 2007), positive emotions associated with organisational change and affective commitment to change (Fugate & Kinicki, 2008), engagement and life satisfaction (De Cuyper, Notelaers, De Witte, 2009), well-being and global health status (Bernston & Marklund, 2007) and other factors. Most of the factors are independent of the size of a country (Andrews & Higson, 2008). Russia is not an exception here.

There is certain connection between employability and country's human capital growth determined by individual's personal development during the whole life. The personalisation of educational systems should lead to the rise of learner's potential both at a secondary school and elite university. However, a common problem concerning this approach to education obviously exists.

A peculiar feature of Russia is a special system of governmental support towards Bachelor and Master graduating students in their employability through a job placement or distribution programme. The number of job offers frequently exceeds the number of university graduates. Such situation is especially relevant to elite universities. Indeed, the demand for TPU graduates is traditionally 1.5 times higher than the actual number of graduates is. In 2015, the difference reached 170%.

Thus, in Russia, the professional demand for graduating students and employability are largely interconnected which has a certain negative impact. For instance, it confines students' mobility, whereas it is stated that «in the context of a rapidly changing information- and knowledge-intensive economy, employability involves far more than possession of the generic skills listed by graduate employers as attractive» (Bridgstock, 2009). Moreover, in spite of being distributed a job, many graduates do not start doing this work. In particular, according to the collected data, in 2014, only 62% of TPU graduates began to work in the obtained position. Russia's participation in the Bologna Process is worsening the situation. Thus, new ways to solve the described problem are required.

2. Objectives, methodology and research design

In Russia, sociological aspects of professional self-determination were described in various scientific research papers (Retunskaia, 2009; Fedorova, 2011). The aim of this article is to study students' personal and professional formation in terms of individualisation and personification of higher education. The working hypothesis is that the sustainable development of university students' professional self-determination can be achieved by guiding their personal development from individualisation in terms of egocentrism to personalisation in society. The guidance can be realised by means of personification of pedagogical cooperation in learners' fast-paced zone of proximal development. Such approach of targeted support for students' professional self-determination requires certain adjustment of the basic terms and concepts and creating personified learning environment.

In this research, a survey was conducted among TPU students. The results were then analysed and compared with those obtained in similar surveys at other Russian universities. Overall, the surveys took place in 2013–2015. In 2015, to identify the respondents' personal characteristics, a test for professional self-determination, developed by the Testing and Development Centre «Humanitarian Technologies», Moscow (Altuhov, Orlova, Serebryakov, 2006), was used. The testing system «Professional Career» included a set of five psychodiagnostic tests and aimed to evaluate the learners' skills, motivation and competences for predicting their professional and career development. The second test of the set was targeted at establishing the learners' career interests and allowed «identifying individual's professional orientation and most suitable professional types or roles for future career: manager, specialist, analyst, communicator, functionary, entrepreneur, administrator or innovator» (Altuhov, Orlova, Serebryakov, 2006). The ultimate individual professional type was determined by 48 cases of pair match. The specifics of each type are provided below.

- Administrator – interest in administrative work, maintaining the operation of various structural units of an organisation, providing due and sustainable processing, planning and control of ongoing activities.
- Manager – interest in senior positions, managerial decision-making, strategic planning, leadership, work process control.
- Entrepreneur – interest in project design and realisation, new business areas and lines development.
- Communicator – interest in interaction with people, communication with clients and providing assistance.

- Innovator – interest in innovative and creative work, developing new types of services, products and technologies.
- Specialist – interest in specialist's positons, in-depth mastering of work spheres that are within one's competence, constant professional development and skills enhancement, producing high quality goods and providing high quality services.
- Functionary – interest in work related to internal processes of a company, e.g. management of documentation, personnel, finance, information, etc.
- Analyst – interest in analytical work, information processing and evaluation, risk and prospect prediction.

To participate in the survey, 206 Bachelor and 87 Master students of 8 TPU institutes were selected as respondents. In particular, Institute of Non-Destructive Testing – 43 students, Institute of High Technology Physics – 28 students, Institute of Humanities, Social Sciences and Technologies – 34 students, Institute of Cybernetics – 37 students, Institute of Natural Resources – 48 students, Institute of Power Engineering – 45 students, Institute of Physics and Technology – 34 students, Institute of International Education and Language Communication – 23 students.The method of Spearman's rank correlation was used in the research.

3. Theoretical aspects

3.1. Features of professional self-determination

The essence of professional self-determination is regarded by Priajnikov and Priajnikova (2012) as «awareness of the meanings of one's own professional activities and overall life in the context of specific cultural-historical (socio-economic) situations». Abulkhanova-Slavskaya (2012) considers professional self-determination to be inextricably relatedto the choice of life path or life self-determination. According to the researcher's view, the connection between personality and profession forms the perspective and retrospective of the personality, while the type of this connection decides a career choice. Such idea is supported by Mitina (2003) who believes that «the development of personality (its integral characteristics) determines the choice of profession and training, while the choice and professional activity development determine the strategy for personality development». Thus, it can be admitted that both self-determination as a whole and professional self-determination develop within two aspects, namely axiological and activity-related, and can be regarded, according to Klimov (2004), at different levels: gnostic (change of consciousness, including self-awareness) and practical (social status change, the change of one's place in the system of social relationships). Overall, the review of literature in pedagogy in terms of to the studied problem allowed summarising the ideas below.

- The pedagogy of professional self-determination is mostly regarded in relation to secondary school learners and their career choice.
- The problem of university students' professional self-determination has been studied in terms of psychological aspects. The following components of professional self-determination can be identified: moral and value, planning, informative, and emotional. The moral and value component implies search for essence of professional activity and consistency of value orientations; the planning component reflects to what extent the individual's professional plan of development is formed (how definite, complete, conscious, sound and consistent it is); the informative component shows the degree of knowledge and awareness of the chosen profession; and the emotional component implies positive self-evaluation in terms of being a professional.
- Professionalself-determination is a process of formation and development of individual's attitude towards him/herself as the subject of professional activity. Professional self-determination is not merely a choice of future profession or possible life scenarios in which one is an employed professional but a creative process of person's lifelong professional development, from making a career choice to finishing professional activity completely.
- In theoretical and empirical research publications, self-determination is regarded in isolation from the current tendency of individualisation and personification of education as a process, result and value. However, the development of learners' potential is impossible without the individualisation and personification of pedagogical cooperation in learning environment.

Thus, the essence of personificationas a common didactic principle in education has been the subject of a large number of studies. Nevertheless, there is certain ambiguity about the terms of individualisation, personification and personalisation. Consequently, it is important to clarify these terms and identify the pedagogical conditions of university students' personal and professional formation within the individualised and personified educational process.

3.2. Individualisation and personalisation of education

The individualisation of education is considered in this paper as creating conditions for positive display of individualism of the subject of the pedagogical process, while individualism is regarded as display of individual's potential and the choice of personal development. At present, individualism is identified as a moral quality expressed through words, actions and relations in which individual rights, interests and needs prevail over collective or public (Individualism: free dictionary, 2015). Thus, the individualisation of education is a way to autonomation and self-controlled self-education; it is based on satisfying learners' needs to freely display their personal qualities and act following own interests, views and beliefs. In this respect, the pedagogical basis of individualisation becomes heutagoty, which is founded on student's conscious self-regulation of various activities in the educational process (Heutagogy: wikipedia, 2015).

According to Esaulova, Suhobskaia, Shadrina (2011), despite the whole variety of contexts in which the term «personification» is used, its interpretations demonstrate some invariant features reflecting those peculiarities of the modern educational process that cannot be expressed through such notions as «individualisation», «differentiation» and others. The term «personification» highlights the importance for the educational process to be strongly orientated towards learner's inner energy, commitment and autonomy in various activities organised and motivated with the help of pedagogical technologies.

In this article, it is considered that personification implies creating positive learning conditions, i.e. adaptation of learning content and process to each student through taking into account their abilities and capabilities, thinking style, learning motives, interests, specifics of communication environment (face-to-face or distant, synchronous or asynchronous) as well as monitoring their learning progress or success in a particular sphere. Teacher personalisation is regarded as showing competency in synthesising and advancing own experience of innovative activity as part of free will responsibility requiring skills in designing original courses, developing adapted learning materials (course books, textbooks, electronic lecture synopsis presentations, video, webinars, etc.) with account of the personification of students and learning conditions. Such personalisation means preserving teacher's self-identity not only in face-to-face classroom environment but in online environment, within e-groups or communities as well.

The personalization of students in the university educational process implies their self-determination towards future career and the desire to participate in collaborative learning and social activities as a partner ready to help and assist others by own knowledge and experience. Today, in Russia, learners can choose the educational form (internal, correspondence, internal-correspondence or external), direction of training, degree of education (Bachelor, Master, Postgraduate), educational programmes with various optional disciplines, distance learning, topic of educational-research work, topic of scientificresearch work, on-placement training, vocational training, ways of self-education and extra-curricular activities.Moreover, there are opportunities for the development of learners' potential by means of informal learning activities in online networks and communities, creative unions, students groups, innovation incubators, social movements, etc.

In relation to educational process personification, it seems important to develop a programme of first year students' academic and social adaptation to university, studying in new social conditions, students' environment and professional engineering activity. Such programme is being realised at TPU. Further personification of students requires detecting their psychophysiological characteristics or capabilities, monitoring their change during the study, conducting a career orientation test and, finally, based on the obtained results, designing the personalised educational trajectory in which university tutors and instructors from enterprises are involved.

In addition, it is important to persistently motivate students to master personal knowledge management, achieve the necessary level of competences, plan future career and learn the technology of employability. Thus, if the above mentioned factors are put into practice, certain success is likely to be achieved in terms of personal and professional formation of university students and increase in the number of young specialists who start to work by distribution.

4. Experimental results

The sociological research conducted by the Professional Practice and Job Placement Office in 2012-2014 showed that the most important activity influencing students' professional self-determination is on-placement training. 64% out of approximately 1000 respondents evaluated this activity with the highest point – 5 points. Such result is quite expected as professional practice is an essential component of students' immerse in the process of autonomous professional activity and career development enabling them to self-determine professionally and identify own aims of future professional activity.

Quite high estimates were obtained in relation to the role of university vocational training – 4,3 out of 5 points. Students regard itas an integral part of enhancing their abilities and capabilities in terms of professional self-determination and future employability. It should be noted that the number of TPU students receiving vocational training within both professional practice and university studies is annually increasing. The reason is that enterprises posecertain requirements to university students coming for on-placement training and graduates applying for work. One of the requirements is having a certificate of vocational training. Generally, such enterprises refer to extractive, processing and energy industry.

The average results of professional testing of 292 students of different years and direction of training at TPU are presented in Fig. 1. The data show what career type will allow a young specialist to fully realise their potential; which intellectual characteristics to rely on and which to actively develop; which life values to follow when making career decisions and how to anticipate their future impact; what type of organisation and position would most likely suit the person. Such type of figure is given to each participant after the testing procedure.

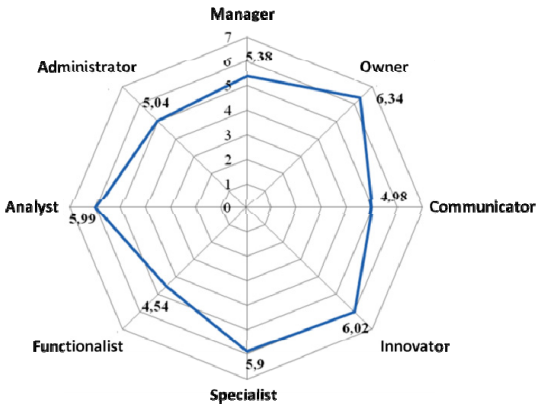

Fig. 1. Average value of career vector

In accordance with the respondents' individualcharacteristics, Fig. 1 shows the recommended directions of their career development, particularly as an entrepreneur, innovator, analytical or specialist. These results can correlate, for instance, with such types of professional activity as regulatory, entrepreneurial,engineering and manufacturing,designing,scientific and research. Having identified their own professional activity types with the help of the test, students should then learn to orientate in the labour market in order to find most preferable companies and positions for successful career.

TPU Center for Monitoring and Rating Research, and the Professional Practice and Job Placement Office annually conduct sociological survey of TPU graduates' perception of the quality of the educational process at the university, their awareness of the nature, content and conditions of their future professional activity, etc. In 2014, 964 TPU graduates of 8 institutes participated in the survey. The obtained results demonstrate that such an important characteristic as «orientation of the educational process towards mastering future professional activity» has lower estimates in comparison with others. The characteristics «acquisition of theoretical knowledge of future profession» and, especially, «awareness of the nature, content and conditions of future professional activity» have quite low estimates as well. Only slightly more than half of the respondents have clear understanding in terms of the latter

characteristic. Overall, the 2014 research results correlate with the previous data showing that students find it challenging to identify themselves in terms of various types of profession and choose the most preferable career path in terms of success. There is certain imbalance between students' priority fields of future professional activity and the real situation at the labour market. In addition, there is a low level of students' inner motivation when choosing the type of professional activity and place of future work. Similar data are presented in Kozlova and Malkova (2012): only 64% of senior year students of the leading St. Petersburg universities said that their choice of profession corresponded to their major personal characteristics.

Thus, the research findings indicate that the content and organisation of the higher educational process should be certainly changed. This will facilitate creating better conditions for students' professional self-determination, especially in terms of preparing them for future employability.

5. Formative support of professional self-determination

TPU model of continuous support for students' professional self-determination is presented in Fig. 2. The comparison of this model to the one described in Guilbert, Bernaud, Gouvernet, Rossier (2015), shows certain correlation. Indeed, the section «Governmental and educational policies» (in Guilbert, Bernaud, Gouvernet, Rossier, 2015) corresponds to Federal State Educational Standards (FSES) in TPU model. The section «Organizational strategies» (Ibid.) corresponds to the successive steps (disciplines) of the basic educational programme marked in Fig. 2, and the section «Person» (Professional trajectory, Skills, etc.) (Ibid.) is reflected in the present model through the sequence of orientation (propedeutics), personalisation and individualisation of the educational process.

As assumed, the choice of university and direction of training in a particular institute is based on applicants' professional orientation that they obtain at a secondary school. The programme of higher education in Russia is based on FSES requirements which determine the spectrum of graduates' competences. In addition, TPU basic educational programmes are focused on the standards of the Worldwide Initiative «Conceive – Design – Implement – Operate» (CDIO Initiative) and the Accreditation Board for Engineering and Technology (ABET accreditation).

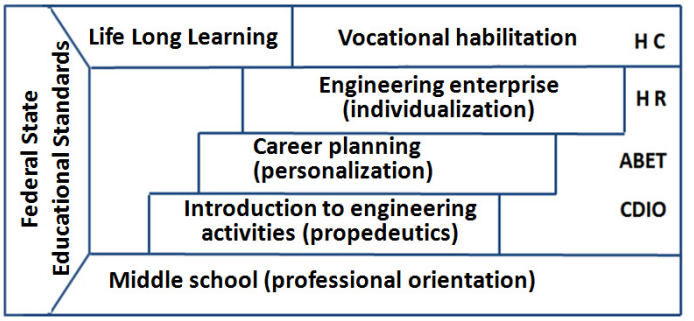

Fig. 2. Model of formative support of professional self-determination

At present, in order to provide individualisation and personification of students' personal and professional formation, educational programmes of all directions of training at TPU include a discipline «Introduction to Engineering Activities» which aims to equip learners with the experience of design and engineering activities in accordance with the chosen direction of study. When doing projects within this discipline, students familiarise themselves with various engineering activities of creating real products, learn the fundamentals of the development of technological processes and systems and acquire skills ofinterpersonal communication. First, students master the academic type of learning activity discussing specialist's work, various theoretical aspects and problems. Then, based on a specialist's model with the corresponding functions, tasks and problems, practical and social competences, students experience various types of quasi-professional activity, in particular case-study, business games, brainstorming, etc. Such teaching methods allow simulating the conditions, content and dynamics of a real

engineering working process, relationships between people involved and situations when it is necessity to make a choice of technological solutions and instruments to perform a particular task.

At this stage of propedeutics, learners form their personal attitude towards the overall professional development. In this respect, not only the acquired knowledge and obtained practical skills are of high importance but also the development of the system of learners' professional values, the opportunity to immerse in simulated professional situations, the formation of professional orientation, the development of professional perception of the world and the desire to change the surrounding environment for the better. The mentioned aspects are crucial for future engineers' professional self-determination, though it should be noted that, according to the 2014 research results, the role of the discipline «Introduction to Engineering Activities» delivered to junior year students does not reveal itself at the level of graduates as the expected effect can appear only a few years after.

To strengthen students' professional self-determination, the second step in the model implies delivering a successive discipline «Career Planning» offered to students in all directions of training as well. The aim of the discipline is to form learners' understanding of major tendencies in the labour market and develop the necessary competences facilitating graduates' competitiveness and career prospects. The personification of education is reached at this stage with the help of a career-orientated test that helps identify learners' most likely professional positions at work and types of career development and, consequently, give recommendations towards the development of personal interprofessional competences.

Further educational process is realisedin accordance with the found students' individual characteristics. The career-orientated test allows detecting learners' personal traits, work motivation, professional interests, life principles and values. Based on the results, students and teachers together create individual plans of career development including the possible ways of professional and personal competences formation.

In addition, the discipline «Career Planning» includes studying the modern labour market, analysing demands for young specialists in enterprises, learning technologies of career planning and control, identifying the leading professional positions in major engineering spheres and creating individual strategies of career development. The main role is devoted to practical classes, i.e. seminars, workshops, master classes, training sessions, etc. Such forms of class delivery allow using problem-based methods of teaching and case-study for students to immerse in professional self-determination issues. There are opportunities to communicate with enterprises' representatives who perform as instructors directly involved in engineering activities. Such interaction helps students learn about real examples of career formation of university's graduates from prior years. In addition, students can show the instructors their own career plans and ask for advice how to realise their aims and objectives. Such form of the personalisation of educational environment is essential for students' professional self-determination.

The next step of formative personalisation of professional self-determination is an elective «Engineering Enterprise». As part of this discipline, students familiarise themselves with various algorithms of solving non-standard tasks, the art of negotiation and product presentation, features of engineering entrepreneurship and innovation management. Overall, the study is aimed at developing learners' potential and inclination towards engineering entrepreneurship, especially in relation to those students who have demonstrated an aptitude for this area in the career-orientated test. On-placement training is realised within the educational and scientific laboratory «The ground of engineering entrepreneurship» and the International Center of Programme «Master of Business Administration (MBA)».

Moreover, in order to maintain contacts with TPU graduates who work effectively for various enterprises, the university has a special department which analyses the experience and risks of TPU graduates' habilitation. In addition, the university stays in communication with its graduates' associations in other cities in Russia and abroad.

6. Conclusion

The personal and professional formation of university graduates requires transition from the egalitarian or uniform approach to the acknowledgement of post soviet understanding of individualism as a positive factor of human capital formation and realisation of individual's potential that should be developed in the pedagogical process. The mechanism of such development is based on the personification of educational programmes and technologies and the whole educational process, which means taking into account the whole spectrum of learners'

personal characteristics, needs and motivation towards professional self-determination. Consequently, the integrated effect of various factors of education individualisation and personification can facilitate graduates' professional self-determination.

At universities, the organisation of work directed at students' professional self-determination and self-awareness is largely based on the diagnostic approach in which methods of sociological and/or psychological research are applied. Due to the necessity for studies to provide students' activity-based engagement in future profession and create individual trajectories of career development, it is important to develop a «forming approach» based on pedagogical and organisational-precessual support for students' professional self-determination. Therefore, the opportunities for learners' personal and professional development and self-determination should be expanded which can be achieved through:

- formation of learner's subject position and ability to independently set studying and professional goals and ways of their accomplishment depending on personal educational needs, interests and capabilities;
- increase of student's motivation for professional self-determination, self-assessment and self-reflection, social activity and autonomy, including autonomy in mastering professional-orientated learning material;
- realisation of individual professional educational trajectories (within the third generation FSES or FSES 3+) with a larger choice of disciplines, levels of their mastering and ways of learning process organisation;
- identifying normative boundaries of student's autonomy in the choice of aims, ways and forms of professional education, and providing the necessary tools and support for their autonomy by means of cloud internet services;
- rationalisation of study in order to conserve time for satisfying learner's professional, educational and cultural needs;
- individual tutorials and consultations for students to overcome difficulties in studying and receive pedagogical help in their professional self-determination.

Thus, the introduction of the successive disciplines «Introduction to Engineering Activities», «Career Planning» and «Engineering Enterprise» into the educational process can have a highly positive impact on engineering university graduates' personal and professional formation.

Acknowledgements

The authors are grateful to the Russian Humanitarian Scientific Foundation for supporting this work by the grant RHSF 15-16-70004.

References

ABET accreditation. Available at: http://www.abet.org/

Abulhanova-Slavskaia, K.A. (2012). Problema sootnosheniya lichnosti, individualnosti, subjecta [Correlation problem between personality, individuality, actor]. In Volovikova, M.I. & Harlamenkova, N.E. (Eds.), *Modern identity: psychological research* (pp. 17–35). Moscow: Institute of Psychology RAS.

Altuhov, V.V., Orlova, E.F., Serebryakov, A.G. (2006). Professional career: Vocational guidance for students and graduates of higher schools. *Psychology in Institution of higher education*, 3, 55–69.

Andrews, J. & Higson, H. (2008). Graduate employability, ''soft skills'' versus ''hard'' business knowledge: A European study. *Higher Education in Europe*, 33, 411–422.

Bernston, E. & Marklund, S. (2007). The relationship between perceived employability and subsequent health. *Work and Stress,* 21, 279–292.

Bridgstock, R. (2009). The graduate attributes we've overlooked: enhancing graduate employability through career management skills. *Higher Education Research and Development*, 28(1), 31–44.

CDIO Initiative. Available at: http://www.cdio.org/

De Cuyper, N., Notelaers, G., De Witte, H. (2009). Job insecurity and employability in fixed-term contractors, agency workers, and permanent workers: Associations with job satisfaction andaffective organizational commitment. *Journal of Occupational Health Psychology*, 14, 193–205.

Eby, L.T., Butts, M., Lockwood, A. (2003). Predictors of success in the era of the boundaryless career. *Journal of Organizational Behavior*, 24, 689–708.

Esaulova, M.B., Suhobskaia, G.S., Shadrina, T.V. (2011). *Personalizaciya vysshego professionalnogo obrazovania: na puti k samoupravliaemomu obucheniyu [Personification of higher vocational education: toward the solidarity training]*. Available at: http://ext.spb.ru/2011-03-29-09-03-14/108-custom-personalization-edu/788-2011-10-30-22-00-35.html

Fedorova, Y.A. (2011). Professional self-determination of students in high school. *Teachers' education in Russia*, 1, 269–273 (in Russian, abstract in English).

Fugate, M. & Kinicki, A.J. (2008). A dispositional approach to employability: Development of ameasure and test of implications for employee reactions to organizational change. *Journal of Occupational and Organizational Psychology*, 81, 503–527.

Guilbert, L., Bernaud, J.-L., Gouvernet, B., Rossier, J. (2015). Employability: review and research prospect. *International Journal for Educational and Vocational Guidance*. Available at: http://link.springer.com/article/10.1007%2Fs10775-015-9288-4#page-1

Heutagogy. Available at: http://en.wikipedia.org/wiki/Heutagogy

Individualism. Available at: http://www.thefreedictionary.com/individualism

Klimov, E.A. (2004). *Psichologiya professionalnogo samoopredeleniya [Psychology of professional self-determination]*. Moscow: Academia.

Kozlova, N.V. & Malkova, I.Yu. (2012). *Usloviya lichnostno-professionalnogo stanovlenya studentov vysshei shkoly: proektirovaniye obrazovatelnogo profilia [Conditions of personal and professional development of high school students: designing educational profile]*. Tomsk: TPU Publ.

McArdle, S., Waters, L., Briscoe, J.P., Hall, D.T. (2007). Employability during unemployment: Adaptability, career identity and human and social capital. *Journal of Vocational Behavior*, 71, 247–264.

Mitina, L.M. (2003). Lichnostnoe i professionalnoe razvitie cheloveka v novyh socialno-ekonomicheskih usloviah [Personal and professional development in new social and economic conditions] (pp. 93–108). Grishin, A.V., Kluev, F.N., Konev, G.G. (Eds.). Cheliabinsk: Yujno-Ural. Publ.

Nauta, A., Van Vianen, A., Van der Heijden, B., Van Dam, K., Wellemsen, M. (2009). Understanding the factors that promote employability orientation: The impact of employability culture, career satisfaction, and role breadth self-efficacy. *Journal of Occupational and Organizational Psychology*, 82, 233–251.

Priajnikov, N.S. & Priajnikova, E.Yu. (2012). *Psihologiya truda [Labour psychology]*. Moscow: Academia.

Retunskaia, T.N. (2009). Personal and professional self-determination of students in the learning process. *Higher education in Russia*, 7, 74–77. (in Russian, abstract in English).

Van Dam, K. (2004). Antecedents and consequences of employability orientation. *European Journal of Work and Organizational Psychology*, 13, 29–51.